

Pearson International Primary Science

Year 6
Textbook



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Textbook



Pearson

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Welcome to Pearson International Primary Science!

This book is a key part of your journey to becoming a young scientist.

Let's take a look at some of the features.



Introduction

This introduces you to what the lesson is about.

Information

These are some of the important things you will learn in the lesson.



Topic 2 | Plant life cycles

Insect or wind pollination?

Some flowers use insects as **pollinators**, but other animals and even the wind can be pollinators too.

A **pollinator** helps the transfer of pollen for pollination.

Hummingbirds can pollinate flowers when they reach down into the flower to drink its nectar.

Can you see pollen on the hummingbird?

This fruit bat is also a pollinator.

Can you see the anthers where the yellow pollen is made?

These plants do not use a pollinator. They use the wind to transfer pollen from anthers to stigmas.

Their flowers do not need big, brightly coloured petals or nectar.

flowers

Instead they have lots of small green flowers with stamens that **blow** in the wind.

anther

The anthers hang out of the flower on long, flexible filaments.

The small, light pollen grains easily blow in the wind.

Wind-pollinated flowers, such as grasses, make much more pollen than insect-pollinated flowers. A lot of it will not reach another flower.

feathery stigma

Wind-pollinated flowers have **feathery stigmas** with long styles.

This increases the chance of pollen touching them as it blows past.

Look at some wind-pollinated flowers that grow where you live.

Key words
pollinators blow feathery

26 27

Questions

There are lots of questions within the lesson to challenge your thinking.

If you are very interested in science, the textbook shows you pictures of extra things to explore yourself.

After you have read these pages you could find out more about wind-pollinated flowers.

Key words

These are important words to know. They are highlighted in green in the lesson.

Mascots

These are helpful hints or questions from our mascots.

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Page numbers

The page numbers for each lesson exactly match the page numbers in your workbook. This means you can easily find the workbook page for every textbook lesson.

You can use the textbook pages to help you with some of the workbook tasks. Sometimes the results table for an investigation is in the workbook.



Meet the mascots

Asha

This is Asha. She is good at science and helps others to **understand** things. Asha works **accurately** and will help you to do that too. She knows that many words in science have a very **precise** meaning and she points this out to you from time to time.

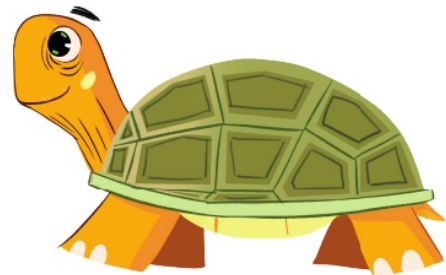


Marco

Meet Marco! He is **analytical**. He thinks carefully about how things in the world work. He likes **investigating** and tries to get reliable results by doing fair tests. Marco encourages you to **apply** your knowledge to work out answers whenever you can.

Victor the giant tortoise

Say hello to Victor. He is a giant tortoise from the Galapagos Islands. Victor is 120 years old! Victor is **observant** and keen to explore the world beyond his island. Victor is slow and **careful** but he plans his time well. He likes to **think** ... and what better place to do it than inside his shell!



Sully the gull

Wave hello to Sully. He is a type of bird called a gull. Gulls can be found all over the world! He is **curious**. Sully can fly up high or swoop down low to question things from different viewpoints. Sully knows that **asking questions** is the way that scientists start their own investigations.



Zorp the alien

This is Zorp! Zorp enjoys **exploring**. Zorp knows a lot about our Solar System and likes to share that knowledge. Zorp knows that lots of things on Earth are new to him, but he **discusses** them with friends and thinks of ways to find out things by himself too.

And finally ... you!

You are a very important part of these books. The books are here to tell you new things but also to help you to become a scientist. Scientists like to find out new things and to challenge their own ideas and those of others. We hope you enjoy exploring and investigating science, asking lots of questions and have fun!

Test and exam skills

Being prepared is the most important way to help yourself to do your best. Here are some ideas:

Planning ahead

- Write down the date of the test and count how many days you have to get ready for it.
- Divide up what you need to learn so that you will be ready **BEFORE** the test day. You are then less likely to worry that you do not have enough time.

Learning the topic(s)

It is not enough just to read about the topic. Do something **ACTIVE** such as:

- write down the important facts and the key vocabulary you must learn, not just everything that is in your textbook or workbook
- ask someone to test you by asking you some of the workbook questions
- write some sentences, missing out the key vocabulary. Take a photo of them if you can. See if you can complete the missing words in a few days' time. If you have a photo, you can easily do this more than once.

Know how to answer the questions in a test

- **Questions that ask you to tick, cross or circle your answer** often have instructions such as:

Put a cross (X) in **one** box to indicate your answer.

Circle **two** animal groups this animal is in.

Put **one** tick (✓) in each row of the table to show something.

Check how many answers you are allowed to choose, then make your choice after looking at **ALL** the options. If you change your mind, make the change very clear.

- **Questions that have a short answer line and one mark**

_____ (1)

Write a one-word answer or a short phrase. The length of the answer line and the number of marks show you that this is what is needed here.

e.g. Question: which part of a plant takes up minerals from the soil?

Answer: **roots**

- **Questions that have one or two longer answer lines and one mark**

_____ (1)

Questions like this often ask you to describe something, define a word or answer a simple question. The length of the answer line and the number of marks show you this. Do not copy parts of the question in your answer.

e.g. Question: What does the term *respiration* mean?

Answer: It is the **life process in which body organs use oxygen.**

- **Questions that have several answer lines, and more than one mark**

_____ (2)

Questions like this often ask you to explain something. The number of answer lines and the number of marks show you that you need to write something that contains two facts or ideas. Do not copy parts of the question in your answer.

e.g. Question: Explain why a plant dies if it is left in a dark cupboard.

Answer: Plant **leaves use light to make their food.** The plant in the cupboard **has no light so it cannot make any food.**

Notice that the answer does **not** start with 'A plant dies if it is left in a cupboard because ...'.

You will get **no** marks for writing this and it wastes time and answer space.

Write some questions of each type and give them to your partner to answer.



I Micro-organisms

Micro-organisms are tiny living things. Let's look at some of the ways they are both useful and harmful to humans.



Micro-organisms are so small that we need a microscope to see them individually.

Bacteria are micro-organisms. We use some to make yoghurt and cheese, but other bacteria can harm us by causing food poisoning or disease.

Fungi can be large, such as mushrooms, but there are many microscopic fungi too. We use a microscopic fungus called yeast to make bread dough rise before baking it. Some microscopic fungi grow between our toes, or under our nails, causing unpleasant infections.

The picture shows some yoghurt that has been made using useful bacteria. It has not been covered or stored properly.

Can you see some blue and grey mould fungus growing on the top? It is feeding on the yoghurt and decaying it. We cannot eat food like this; it could make us ill.

Suggest a good place to store yoghurt.

What is a micro-organism?

Hundreds of years ago, people did not know that there were very **tiny** living things that they could not see.

Doctors did not know why **diseases** spread from person to person. Some thought bad air or bad smells caused diseases.

Many doctors in the 1600s wore clothes like these to take away bad smells.



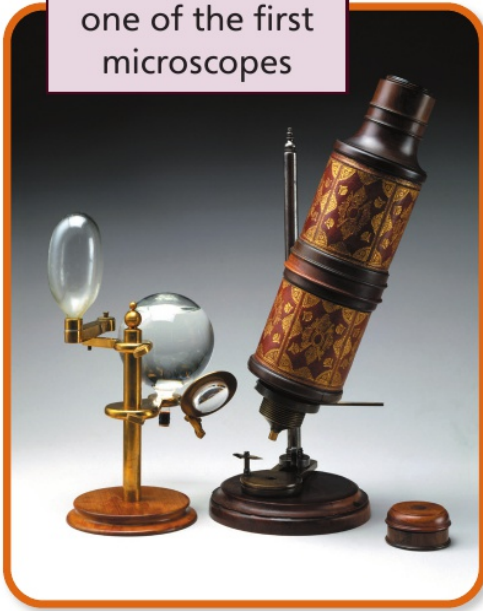
The beak contained herbs and spices to keep smells away.

The stick made it easy to point at things so they did not have to touch anything.

They thought that if smells could not reach their body, they would not catch diseases from their patients.

After a piece of equipment called a **microscope** was invented, scientists were able to find out more about very tiny living things.

one of the first
microscopes



We call these tiny living things **micro-organisms**. They are so small that we need a microscope to see them.

A microscope **magnifies** things.

When tiny objects are magnified they look bigger and are easier to see.

Micro-organisms that cause diseases are sometimes called germs.
This is not a scientific word so we do not use it.

This is what microscopes look like today.

Many scientists have much larger microscopes than this. Their microscopes magnify objects more.



Key words

tiny

diseases

microscopes

magnifies

micro-organisms

Types of micro-organism

We have looked at many different animals and plants. There are many different types of micro-organism too. Some are useful to us, others are harmful.

We will look at three types of micro-organism in this topic:

- **viruses**
- **bacteria**
- **microscopic fungi**

All three types of micro-organism can make us ill.

Viruses

Viruses give us colds and influenza.



They also give us other diseases such as measles and chickenpox.



Each spot contains many viruses.

Bacteria

Many bacteria live in our digestive system.
Some are harmful and may cause **food poisoning**, but some are useful.

Which part of the digestive system is shown by the cartoon figures?

useful bacteria



These bacteria are also found in yoghurt.

These bacteria help to stop more harmful bacteria growing.

Many types of *E.coli* like these help us to digest our food, but some types are harmful.

harmful bacteria



Some of these bacteria cause food poisoning.

They all cause illness and some are hard to kill.

Fungi

Only some fungi are micro-organisms.

This foot infection is caused by a microscopic fungus.



Key words

viruses

bacteria

microscopic

fungi

food poisoning